1. Develop a conceptual data model reflecting the following requirements: (11/01/22)

a. Identify the main entity types.

Staff, Clinic, Pet Owner, Pet, Examination

b. Identify the main relationship types between the entity types identified in "a".

- Staff <manages> Clinic
- Clinic <employs> Staff
- Clinic <registers> Pet
- Pet Owner <owns> Pet
- Pet <undergoes> Examination
- Staff <performs> Examination

c. Determine the multiplicity constraints for each relationship identified in "b".

- Staff -> Clinic : Many-to-One
- Clinic -> Staff: One-to-Many
- Clinic -> Pet: One-to-Many
- Pet -> Clinic: Many-to-One
- Pet -> Pet Owner: Many-to-One
- Pet Owner -> Pet: One-to-Many
- Examination -> Pet: One-to-Many
- Pet -> Examination: Many-to-Zero
- Staff -> Examination: One-to-Zero
- Examination -> Staff: Many-to-One

d. Identify attributes and associate them with entity or relationship types.

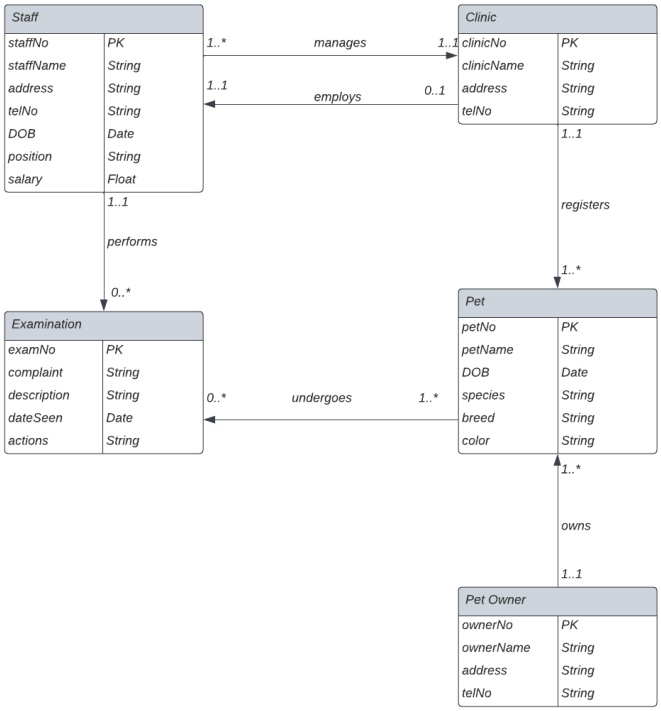
- **Staff:**
  - staffNo
  - staffName
  - address
  - telNo
  - DOB
  - position
  - salary
- **Clinic:**
  - clinicNo
  - clinicName
  - address
  - telNo
- **Pet Owner:**

    - ownerNo
    - ownerName
    - address
    - telNo
- **Pet:**
    - petNo
    - petName
    - DOB
    - species
    - breed
    - color
- **Examination:**
    - examNo
    - complaint
    - description
    - dateSeen
    - actions

e. Determine candidate and primary key attributes for each (strong) entity type.

1. Primary Keys:
    a. Staff: staffNo
    b. Clinic: clinicNo
    c. Pet Owner: ownerNo
    d. Pet: petNo
    e. Examination: examNo
2. Candidate Keys:
    a. Staff: address, telNo
    b. Clinic: address, telNo
    c. Pet Owner: address, telNo
    d. Pet: none
    e. Examination: none

f. Generate the E-R diagram for the conceptual level (no FKs as attributes).


Staff
staffNo PK
staffName String
address String
telNo String
DOB Date
position String
salary Float
1..*
manages
1..1
1..1
employs
0..1
Clinic
clinicNo PK
clinicName String
address String
telNo String
1..1
registers
1..*
1..1
performs
0..*
Examination
examNo PK
complaint String
description String
dateSeen Date
actions String
0..*
undergoes
1..*
Pet
petNo PK
petName String
DOB Date
species String
breed String
color String
1..*
owns
1..1
Pet Owner
ownerNo PK
ownerName String
address String
telNo String